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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/743,002	11/01/1996	HERBERT DAMSOHN	027/43042	3122

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CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

LEO, LEONARD R

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/743,002

Applicant(s)

Damsohn et al.

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 18, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22, 31, 32, 34, 35, and 38 is/are pending in the application.
- 4a) Of the above, claim(s) 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22, 31, 34, 35, and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

The amendment filed September 18, 2002 has been entered. Claim 33 is cancelled, claims 22, 31-32, 34-35 and 38 are pending, and claim 32 remains withdrawn.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 22, 34-35 and 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,321,835 in view of Kim.

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The patent claims a plurality of rectangular tubes for exhaust gas flow; a plurality of internal V-shaped lugs and spacing elements (i.e. external or outward projections) for adjacent tube spacing; a jacket (i.e. sheet metal, column 3) having a coolant inlet and outlet; but does not claim latticed tube bottoms.

Kim discloses a tube and shell heat exchanger comprising a plurality of tubes 1 having spacing elements 3 and welded to preformed latticed tube bottom 2 for the purpose of providing a strong fluid tight manifold.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent welded latticed tube bottoms for the purpose of providing strong fluid tight manifolds for the purpose of ^{providing support (from prior art)} as recognized by Kim.

Regarding claim 34, the patent claims the projections are "pressed to shape."

Regarding claim 35, the patent claims the projections are opposite lugs of an adjacent tube.

Claim 31 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,321,835 in view of Kim as applied to claims 22, 34-35 and 38 above, and further in view of Brzezinski or Scala.

The combined teachings of the patent and Kim lacks welded lugs.

Brzezinski discloses a heat exchanger comprising a tube 1 having opposed walls 8, 9 and a turbulating insert 5 with lugs 15 thereon; wherein the prior art welded the lugs directly to the tube

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walls (column 1, lines 57-64) for the purpose of minimizing material and weight of the heat exchanger.

Scala discloses a heat exchanger comprising a tube 10 having opposed walls 20, 24 and turbulating lugs 25-27 welded thereon for the purpose of minimizing material and weight of the heat exchanger.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the patent welded lugs for the purpose of minimizing material and weight of the heat exchanger ~~for the purpose of~~ as recognized by Brzezinski or Scala.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22, 31, 34-35 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karbach et al in view of Brzezinski, Kim and Peze et al.

Karch et al discloses all the claimed limitations except lugs directly attached to the tube walls, latticed tube bottoms, and tubes having spacing elements.

Brzezinski discloses a heat exchanger comprising a tube 1 having opposed walls 8, 9 and a turbulating insert 5 with lugs 15 thereon; wherein the prior art welded the lugs directly to the tube

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walls (column 1, lines 57-64) for the purpose of minimizing material and weight of the heat exchanger.

Kim discloses a tube and shell heat exchanger comprising a plurality of tubes 1 having spacing elements 3 and welded to preformed latticed tube bottom 2 for the purpose of providing a strong fluid tight manifold.

Peze et al discloses a heat exchanger comprising a plurality of tubes composed of plates or halves 10, 11, each plate or half having a plurality of integral spacing elements 26 for the purpose of providing spacing and support for the tube bundle.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Karbach et al welded lugs for the purpose of minimizing material and weight of the heat exchanger as recognized by Brzezinski, latticed tube bottoms receiving a plurality of tubes for the purpose of providing a fluid tight manifold as recognized by Kim, *and* tubes having spacing elements for the purpose of providing spacing and support as recognized by Peze et al. In the combination, Karbach et al discloses insert 12 (Figure 1a and 2-3) providing upper and lower lugs 21, 22 on opposite tube walls 13. The modification as taught by Brzezinski would “directly attach” the lugs on opposite tube wall, in order to not to destroy the primary reference of Karbach et al.

Regarding claim 35, Figure 10 of Peze et al discloses spacing elements 26 of adjacent tubes do not contact one another.

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Claims 22, 31, 34-35 and 38 22, 31 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karbach et al in view of Scala, Kim and Peze et al.

Karbach et al discloses all the claimed limitations except lugs directly attached to the tube walls, latticed tube bottoms, and tubes having spacing elements.

Scala discloses a heat exchanger comprising a tube 10 having opposed walls 20, 24 and turbulating lugs 25-27 welded thereon for the purpose of minimizing material and weight of the heat exchanger.

Kim discloses a tube and shell heat exchanger comprising a plurality of tubes 1 having spacing elements 3 and welded to preformed latticed tube bottom 2 for the purpose of providing a strong fluid tight manifold.

Peze et al discloses a heat exchanger comprising a plurality of tubes composed of plates or halves 10, 11, each plate or half having a plurality of integral spacing elements 26 for the purpose of providing spacing and support for the tube bundle.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Karbach et al welded lugs for the purpose of minimizing material and weight of the heat exchanger as recognized by Scala, latticed tube bottoms receiving a plurality of tubes for the purpose of providing a fluid tight manifold as recognized by Kim, *and* tubes having spacing elements for the purpose of providing spacing support as recognized by Peze et al. In the combination, Karbach et al discloses insert 12 (Figure 1a and 2-3) providing upper and lower lugs 21, 22 on opposite tube walls 13. The modification as taught by Scala would

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“directly attach” the lugs on opposite tube wall, in order to not to destroy the primary reference of Karbach et al.

Regarding claim 35, Figure 10 of Peze et al discloses spacing elements 26 of adjacent tubes do not contact one another.

Response to Arguments

The reference of Melnyk is withdrawn in view of Kim. The secondary reference of Kim teaches one of ordinary skill in the art to employ a preformed latticed tube bottom, where the tubes are welded thereto within the shell.

It is unclear how much patentable weight applicants want the Examiner to give to the recitation of “providing” and “attaching”. However, the recitation of “welding” has been given full consideration, as noted above with Kim.

The secondary reference of Peze et al teaches one of ordinary skill in the art to employ integral spacing elements to space and support adjacent tubes, without contacting other spacing elements.

The rejections in view of the Brzezinski or Scala, respectively, are deemed correct for lack of any arguments by applicants to the contrary.

The Examiner is disturbed by the untimeliness of the amendment and arguments, when other avenues to distinctly claim the invention have failed. Throughout the prosecution history, the limitations of claim 33-35 have been rejected in view of Kim (since the Office action mailed August 30, 2000). In fact, applicants have never traversed the rejection of any

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of the dependent claims. In this respect, applicants believed the novelty of the instant invention to lie in the limitations of independent claim 22. In response to an Office action, 37 CFR 1.111(b) states "The reply by the applicant or patent owner must be reduced to a writing which distinctly and specifically points out the supposed errors in the examiner's action and must reply to every ground of objection and rejection in the prior Office action. The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references." The amendments filed January 2, 2001 through May 28, 2002 were deemed to be fully responsive to the Office actions mailed August 30, 2000 through June 18, 2002. During this time period, applicants did not argue the impropriety of Kim, except the amendment filed January 2, 2001, which only argued that the spacing elements of Kim were not "integrally formed."

Applicants must present all supposed errors in the Office action to clearly delineate the issues for patentability. An omission will be deemed to concede the claimed subject matter sought for patentability.

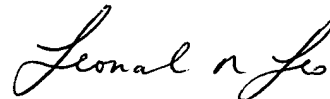
Applicants are reminded of 37 CFR § 1.56 - Duty to disclose information material to patentability. Any knowledge of commonly invented, commonly assigned, copending applications and/or patents pertinent to the instant invention as claimed, throughout the entire prosecution, must be submitted.

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Conclusion

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648.

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.



LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3743

December 1, 2002